DOCUMENT RESUME

ED 300 613 CE 051 255

AUTHOR Bacon, Kevin J.; Birkenholz, Robert J.
TITLE Careers I Unit for Agricultural Science I Core Curriculum. Instructor's Guide and Student Reference.
INSTITUTION Missouri Univ., Columbia. Instructional Materials Lab.
SPONS AGENCY Missouri State Dept. of Elementary and Secondary Education, Jefferson City. Div. of Vocational and Adult Education.
PUB DATE May 88
NOTE 69p.
AVAILABLE FROM Instructional Materials Laboratory, 908 Woodson Way, University of Missouri, Columbia, MO 65211 (Catalog Nos. AG-20-I and AG-20-S).
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052) -- Guides - Classroom Use - Materials (For Learner) (051)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Agricultural Education; *Agricultural Occupations; Behavioral Objectives; Career Choice; *Career Education; Competence; Competency Based Education; Core Curriculum; *Course Content; Course Organization; Learning Activities; Learning Modules; *Occupational Information; Secondary Education; State Curriculum Guides; Teaching Methods; Test Items; Units of Study
IDENTIFIERS Missouri

ABSTRACT

This unit for the Missouri Agricultural Science I curriculum is a revision of the 1982 Careers I unit. The three lessons of the unit are organized in a format designed to facilitate their use in the classroom, and a student reference is included. The lessons cover the following topics: (1) career opportunities in the agricultural industry; (2) job requirements and benefits of agricultural occupations; and (3) steps in identifying and selecting a career. Each lesson contains objectives, competencies, motivational techniques or interest approaches, evaluation with answers, references and resources, study questions, work sheets, and teaching procedures. The student reference contains information sheets for the lessons. (KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED300613

MISSOURI AGRICULTURAL EDUCATION

AG-20-I
Agdex 900

Careers I
Careers I
Careers I
Unit

For
Agricultural Science I Core Curriculum
Instructor's Guide

and

Student Reference

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

J Schell

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CE051255

In cooperation with
Agricultural Education
Department of Practical Arts and Vocational-Technical Education
College of Education and College of Agriculture
University of Missouri-Columbia

In cooperation with
Agricultural Education Section
Division of Vocational and Adult Education
Department of Elementary and Secondary Education
Jefferson City, Missouri

BEST COPY AVAILABLE

The activity which is the subject of this report was supported in whole or in part by funds from the Department of Elementary and Secondary Education, Division of Vocational and Adult Education. However, the opinions expressed herein do not necessarily reflect the position or policies of the Missouri Department of Elementary and Secondary Education or the Division of Vocational and Adult Education, and no official endorsement should be inferred.

Instructor's Guide

CAREERS I UNIT

Kevin J. Bacon
Research Assistant
Instructional Materials Laboratory

Robert J. Birkenholz
Assistant Professor
Agricultural Education
University of Missouri-Columbia

Volume 19
Number 10

Produced by the Instructional Materials Laboratory
University of Missouri-Columbia
Columbia, Missouri

Catalog Number AG-20-I
May 1988

ACKNOWLEDGEMENTS

This Careers I unit for Agricultural Science I curriculum represents a major revision of the 1982 Careers I unit. Revision of this unit was suggested by the MVATA Teaching Aids Committee. A student reference has been developed to accompany this instructor's guide.

Special recognition is given to the Careers Advisory Committee members for providing their valuable time and suggestions in developing this unit. The committee consisted of the following: Steve Bryant, Doug Funk, Dennis Gutshall, Delbert Lund, Charles Parks, Kathy Sicht, Julie Tockman, and Jim Welker.

Special recognition is also due to Harley Schlichting, director of the Instructional Materials Laboratory, and his staff for typing, editing, and illustrating this unit.

Kevin J. Bacon
Research Assistant
Instructional Materials Laboratory
University of Missouri-Columbia

Robert J. Birkenholz, Assistant Professor
Agricultural Education
University of Missouri-Columbia

FOREWORD

This Careers I unit for Agricultural Science I curriculum represents a revision of the 1982 Careers I unit. All lessons are organized in a format designed to facilitate their use in the classroom. A student reference has been developed to accompany this instructor's guide.

The agricultural industry, the largest industry in the United States, employs one-fifth of the nation's work force. Three lessons were developed to aid students in the career selection process. The lessons are as follows: 1) Career Opportunities in the Agricultural Industry, 2) Job Requirements and Benefits of Agricultural Occupations, and 3) Steps in Identifying and Selecting a Career.

During the summer of 1981, the Missouri State Board of Education formally adopted the concept of "Instructional Management Systems" (IMS) as a priority for the 1981-82 school year. The Missouri Commissioner of Education has described the IMS concept as a practical way of "organizing for excellence" in education. To meet the demand for greater productivity and accountability, Dr. Frank Drake, Director of Vocational Education, applied the elements of IMS to form the "Vocational Instructional Management System" (VIMS). The VIMS process provides a framework to use in planning and organizing to assure excellence in Missouri's vocational educational system by focusing greater attention on the management of teaching and learning.

To aid agriculture teachers in the implementation of VIMS, this guide incorporates the needed component parts to meet VIMS requirements. For ease of use, performance objectives and competencies have been included at the beginning of each unit, as well as incorporated within each lesson. A competency profile has also been provided for convenient record keeping.

Bob R. Stewart, Professor and
Coordinator
Agricultural Education
University of Missouri-Columbia

Terry Heiman, Director
Agricultural Education
Department of Elementary and
Secondary Education

TABLE OF CONTENTS

ACKNOWLEDGMENTS ii

FOREWORD iii

OBJECTIVES v

REFERENCES AND MATERIALS vi

COMPETENCY PROFILE vii

Lesson 1--Career Opportunities in the Agricultural Industry 1

HO 1.1: Careers in Agriculture 9
TM 1.1: Scope of the Agricultural Industry 11,13
TM 1.2: Sectors in the Agricultural Industry 15
TM 1.2: Employment in the Agricultural Industry 17
WS 1.1: What Is Involved with Breakfast 19

Lesson 2--Job Requirements and Benefits of Agricultural Occupations 21

HO 2.1: Sample Job Profiles 29
TM 2.1: Occupational Areas in the Agricultural Industry 31
WS 2.1: Occupational Classification Characteristics 33
WS 2.2: Job Profile 35

Lesson 3--Steps in Identifying and Selecting a Career 37

WS 3.1: Self-Inventory 45

AGRICULTURAL SCIENCE I

UNIT - CAREERS I

LESSONS

1. Career Opportunities in the Agricultural Industry

2. Job Requirements and Benefits of Agricultural Occupations

3. Steps in Identifying and Selecting a Career

OBJECTIVES

1. The student will identify career opportunities in the agricultural industry.

2. The student will list and classify agricultural occupations by their job requirements and benefits.

3. The student will match personal interests with appropriate occupations.

NOTE: Percent of accuracy should be set by instructors to reflect passing grades within their school systems.

COMPETENCIES

1. Identify career opportunities in the agricultural industry.

2. List and classify agricultural occupations by their job requirements and benefits.

3. Match personal qualifications with appropriate occupations.

MOTIVATIONAL TECHNIQUE OR INTEREST APPROACH

1. View the video, Tape 7, " Ya' Gotta Have Goals" from the "Born to Win" series of the Zig Ziglar's Business Development Program.

2. View the video, "Green Cows, Quags, and Mummies" presented by Lowell Catlett.

3. View the film "Be All You Can Dream" from the National FFA Center.

EVALUATION

1. Give short, objective tests following each lesson and a more in-depth objective test at the conclusion of the unit.

2. Observe the changes in behavior as evidence of an improved ability of the students to deal with problems in this unit using background acquired from earlier units.

3. Observe students' attempts to solve similar problems in their supervised occupational experience programs.

REFERENCES AND MATERIALS

1. Student reference

   a. Careers I (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1987.

2. Teacher references

   a. Careers in Agriculture. University of Missouri-Columbia: Instructional Materials Laboratory.

   b. Hillison, John; John Crunkilton. Human Relations in Agribusiness. New York: McGraw-Hill, 1980.

   c. Hoover, Norman K. Handbook of Agricultural Occupations. Danville, Illinois: The Interstate Printers and Publishers, Inc., 1985.

   d. Introduction to Agribusiness. University of Missouri-Columbia: Instructional Materials Laboratory, 1984.

   e. Lee, Jasper S. Working in Agricultural Industry. New York: McGraw Hill, 1978.

3. Resource list

   a. Be All You Can Dream. 16mm film. National FFA Center Production. 7 1/2 min.*

   b. Ya' Gotta Have Goals. Videocassette. Zig Ziglar Corporation. 1983.*

   c. Green Cows, Quags and Mummies. Videocassette. Presented by Lowell Catlett. Agricultural Education/Department of Elementary and Secondary Education. 37 min.*

   * Available from Missouri Vocational Resource Center, 10 Industrial Education Building, Columbia, MO 65211.

Careers I
MAJOR COMPETENCY PROFILE

Directions: Evaluate the student by checking the appropriate number or letter to indicate the degree of competency. The rating for each task should reflect **employability readiness** rather than the grades given in class.

Rating Scale:
- 3 **Mastered** - can work independently with no supervision
- 2 **Requires Supervision** - can perform job completely with limited supervision
- 1 **Not Mastered** - requires instruction and close supervision
- N **No Exposure** - no experience or knowledge in this area

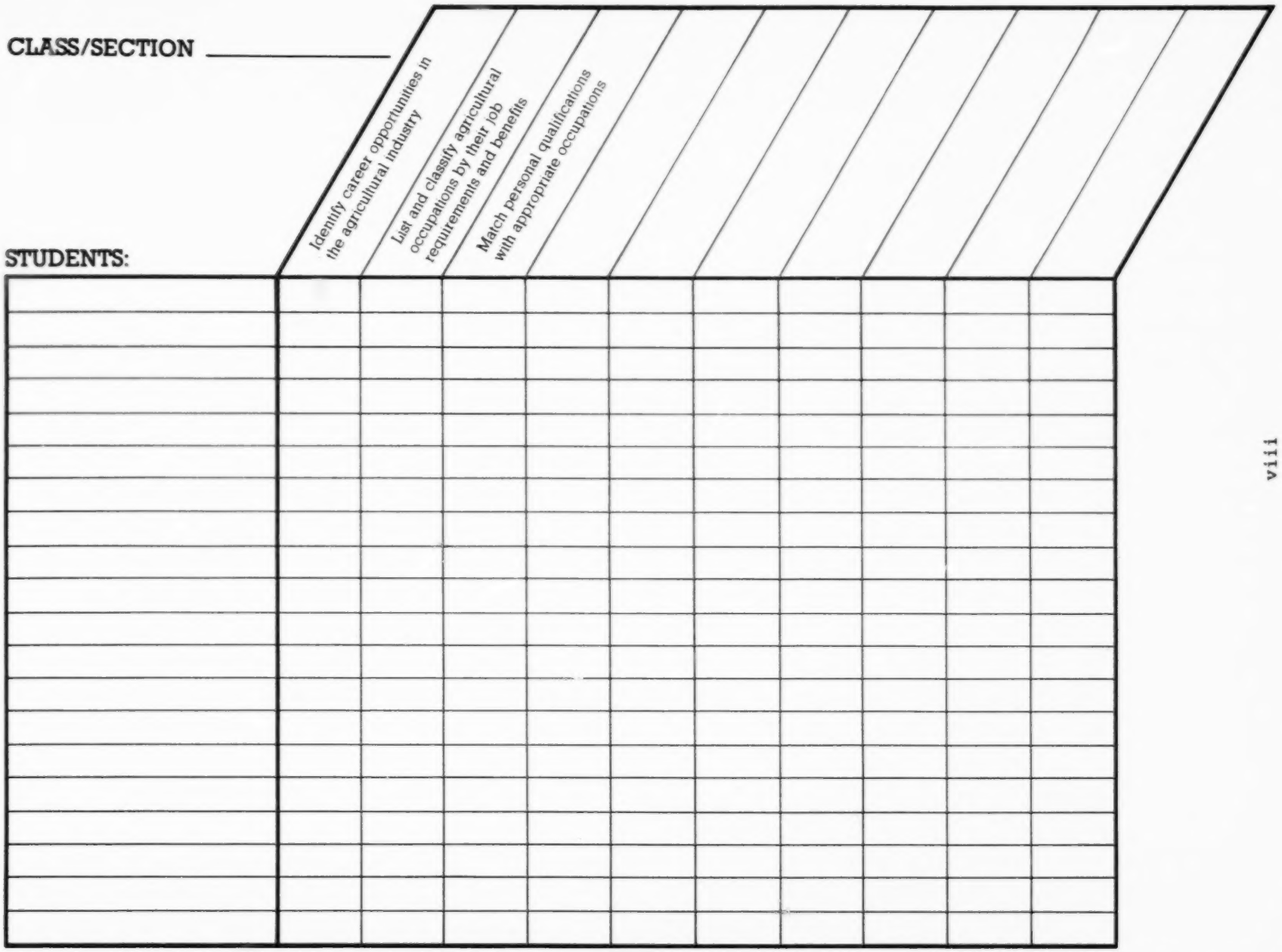
3	2	1	N

Careers I

1. Identify career opportunities in the agricultural industry.
2. List and classify agricultural occupations by their job requirements and benefits.
3. Match personal qualifications with appropriate occupations.

Careers I

CLASS/SECTION _____


STUDENTS:
Identify career opportunities in the agricultural industry
List and classify agricultural occupations by their job requirements and benefits
Match personal qualifications with appropriate occupations

UNIT - CAREERS I

Lesson 1: Career Opportunities in the Agricultural Industry

Objective: The student will identify career opportunities in the agricultural industry.

Study Questions

1. **What is the difference between a career and a job?**

2. **What are the four sectors in the agricultural industry?**

3. **What are examples of careers in each sector of the agricultural industry?**

4. **How many people are employed in each sector of the agricultural industry?**

References

1. Careers I (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1987.

2. Handout

   a) HO 1.1: Careers in Agriculture

3. Transparency Masters

   a) TM 1.1: Scope of the Agricultural Industry
   b) TM 1.2: Sectors in the Agricultural Industry
   c) TM 1.3: Employment in the Agricultural Industry

4. Work Sheet

   a) WS 1.1: What is Involved with Providing Breakfast?

UNIT - CAREERS I

Lesson 1: Career Opportunities in the Agricultural Industry

TEACHING PROCEDURES

A. Introduction

This unit is designed to increase student awareness of the scope of the agricultural industry and to identify career opportunities in agriculture. Nearly 20 percent of the economic output in the United States is derived from the agricultural industry. Agriculture is this country's largest single industry, supplying nearly one in five jobs.

B. Motivation

The scope of the agricultural industry can be illustrated by examining a single product. Take a hamburger to class and/or use TM 1.1 as an example. Have students identify the parts of a hamburger. Discuss where each part comes from. What careers would be involved in producing that product? Be sure to include careers such as stockbrokers, chemists, veterinarians and other occupations which may be unfamiliar to students.

C. Assignment

D. Supervised study

E. Discussion

1. Ask students to describe the difference between a job and a career. A career can be a series of jobs or positions. A vocational agricultural teacher's job may be to teach a certain number of classes. His or her career as an educator, however, involves personal and professional growth and advancement.

   What is the difference between a career and a job?

   a) A job is a specific task or duty performed for pay. It is a single position at any one point in time.
   b) A career is a profession or occupation for which one trains and pursues as a lifework.
      1) A range of related positions which may be held by an individual over a period of time.
      2) It requires updating and learning new skills through continuing education, professional meetings, and workshops.

2. The agricultural industry can be divided into four sectors. Ask students to define each of these and explain how they relate to one another. Many businesses may be involved in more than one sector while other businesses limit their operation within a single sector. Refer to TM 1.2.

What are the four sectors in the agricultural industry?

a) Supply - providing equipment and materials for production
b) Production - producing commodities which will be processed for the consumer
c) Processing/Marketing - processing and distributing agricultural products to consumers
d) Service - providing help to the other sectors so that they might operate more efficiently or effectively

3. Make four columns on the board. Label them "Supply," "Production," "Processing/Marketing" and "Service." Ask students to identify examples of careers under each heading. Some examples are provided below. HO 1.1 lists many careers in agriculture. Use WS 1.1 to answer the following study question.

What are examples of careers in each sector of the agricultural industry?

a) Supply
   1) Agricultural chemist
   2) Agricultural engineer
   3) Feed mill manager
   4) Parts store manager
   5) Pesticide salesperson
b) Production
   1) Crop farmer
   2) Dairy farmer
   3) Poultry farmer
   4) Tree nursery manager
   5) Vegetable producer
c) Processing/Marketing
   1) Commodity grader
   2) Food technologist
   3) Grocery store manager
   4) Processing plant supervisor
   5) Retail florist
d) Service
   1) Agricultural teacher
   2) Consultant
   3) Farm building contractor
   4) Loan officer
   5) Veterinarian

4. Refer to TM 1.3. The top pie graph illustrates the size of the agricultural industry relative to the entire work force. The bottom graph shows the relative size of each sector within the agricultural industry.

How many people are employed in each sector of the agricultural industry?

a) Supply - 2.9 million people or 2.6 percent of the total work force
b) Production - 2.7 million people or 2.4 percent of the total work force
c) Processing/Marketing - 11.4 million people or 10 percent of the total work force
d) Service - 4 million people or 3.5 percent of the total work force
e) Total agricultural employment - 21 million people or 18.5 percent of the total work force

F. Other activities

Invite the placement director from a technical school or college to discuss career opportunities in the agricultural industry. Invite local role models to talk to the class about careers in the agricultural industry.

G. Conclusion

A job is a specific task or duty performed for pay. A career is a profession or occupation for which one trains and pursues as a lifework. The agricultural industry can be divided into four sectors: supply, production, processing/marketing, and services. There are many career opportunities in each sector. The agricultural industry is the largest single industry, employing nearly one in every five workers in this country.

H. Competency

Identify career opportunities in the agricultural industry.

I. Answers to Evaluation

1. a
2. c
3. b
4. a
5. d
6. a
7. c
8. d

9. A job is a specific task or duty performed for pay. It is a single position at any one point in time. A career is a profession or occupation for which one trains and pursues as a lifework.

J. Answers to Work Sheet

Sample answers to WS 1.1 are on the following page.

WHAT IS INVOLVED WITH PROVIDING BREAKFAST?

Name _____
Date _____

Complete this table by answering each of the questions presented in the left column for each of the breakfast items listed below. Some examples have been included to help you get started.

	Orange Juice	Eggs	Bacon	Toast	Butter
SUPPLY 1. List a supply needed by the producer.	chemicals	chicken feed	swine equipment	wheat seed	dairy feed
2. List a career providing that supply.	sales representative	nutritionist	farm store manager	seed producer	delivery person
PRODUCTION 3. What is the ag commodity (raw material)?	oranges	egg	pork	wheat	cream
4. List a career in the production of that commodity.	orchardist	poultry producer	swine producer	crop producer	dairy person
MARKETING/PROCESSING 5. How is the commodity processed for the consumer?	concentrated and packaged	cleaned and packaged	cured and packaged	ground baked, and packaged	churned and packaged
6. List a career involving processing.	food technician	poultry inspector	meat inspector	bakery inspector	milk inspector
SERVICE 7. List a service that other areas may need to provide this product.	financial service	retail grocery store	commodity service	wheat futures market	dairy herd health care
8. List a career which provides this service.	loan officer	store manager	stock broker	delivery driver	dairy herd inspector

UNIT - CAREERS I

Name _____

Lesson 1: Career Opportunities in the Agricultural Industry

Date _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. An example of a career in the production sector is _____.

   a. Tree nursery manager
   b. Feed mill manager
   c. Food technologist
   d. Grocery store manager

2. Which sector of the agricultural industry employs the most people?

   a. Supply
   b. Production
   c. Processing/Marketing
   d. Service

3. How many people are employed in the agricultural industry in the United states?

   a. 19 million
   b. 21 million
   c. 22 million
   d. 25 million

4. Production agriculture employs _____ million people.

   a. 2.7
   b. 2.9
   c. 3.1
   d. 4.0

5. In which sector would the career of a veterinarian be classified?

   a. Supply
   b. Production
   c. Processing/Marketing
   d. Service

6. In which sector would the career of an agricultural chemist be classified?

   a. Supply
   b. Production
   c. Processing/Marketing
   d. Service

7. Which sector in the agricultural industry distributes agricultural products?

   a. Supply
   b. Production
   c. Processing/Marketing
   d. Service

8. An example of a career in the service sector is _____.

   a. Agricultural engineer
   b. Processing plant supervisor
   c. Retail florist
   d. Agricultural teacher

Complete the following short answer question.

9. Explain how a career differs from a job.

Careers in Agriculture

Agricultural Production

Agronomist
Aquaculturist
Certified Seed Grower
Dairy Farmer
Farm Manager
Fruit Grower
Kennel Operator
Mushroom Grower
Pet Shop Operator
Shrimp Farmer
Turkey Producer
Animal Breeder
Beekeeper
Citrus Grower
Dairy Herdsman
Farmer
Horse Rancher
Livestock Producer
Nut Orchardist
Potato Grower
Tobacco Grower
Vegetable Grower
Animal Keeper
Cash Grain Farmer
Cotton Farmer
Dairy Management Specialist
Fish Farmer
Horse Trainer
Milking Machine Operator
Orchard Supervisor
Poultry Hatchery Manager
Tree Farmer
Animal Trainer
Cattle Rancher
Custom Operator
Diversified Crop Farmer
Fish Hatchery Manager
Hydroponics Grower
Mink Producer
Peanut Producer
Rice Farmer
Tree & Vine Fruit Grower

Agricultural Supplies and Services

Aerial Crop Duster
Animal Health Products Distributor
Artificial Inseminator
Dog Groomer
Field Inspector
Harvest Contractor
Poultry Field Service Technician
Service Technician
Agricultural Aviator
Animal Inspector
Chemical Applicator
Farrier
Field Sales Representative, Animal Health Products
Insect & Disease Inspector
Poultry Inseminator
Sheep Shearer
Ag Chemical Dealer
Artificial Breeding Distributor
Chemical Distributor
Feed Mill Operator
Field Sales Representative, Crop Chemicals
Ova Transplant Specialist
Sales Manager
Veterinarian
Animal Groomer
Artificial Breeding Technician
Dairy Nutrition Specialist
Fertilizer Plant Supervisor
Grain Elevator Operator
Pest Control Technician
Salesperson

Agricultural Mechanics

Ag Equipment Dealer
Ag Plumber
Field Sales Representative, Agricultural Equipment
Land Surveyor
Safety Inspector
Ag Construction Engineer
Ag Safety Engineer
Heavy Equipment Operator
Machinist
Soil Engineer
Ag Electrician
Diesel Mechanic
Hydraulic Engineer
Parts Manager
Welder
Ag Equipment Designer
Equipment Operator
Irrigation Engineer
Research Engineer

Agricultural Products

Butcher
Food & Drug Inspector
Fruit Distributor
Hog Buyer
Meatcutter
Quality Control Supervisor
Wool Buyer
Weights & Measures Official
Cattle Buyer
Food Chemist
Fruit Press Operator
Livestock Commission Agent
Milk Plant Supervisor
Tobacco Buyer
Cotton Grader
Food Processing Supervisor
Grain Broker
Livestock Yard Supervisor
Produce Buyer
Federal Grain Inspector
Fruit & Vegetable Grader
Grain Buyer
Meat Inspector
Produce Commission Agent
Winery Supervisor

Horticulture

Floral Designer
Golf Course Superintendent
Hydroponics Grower
Plant Breeder
Floral Shop Operator
Greenhouse Manager
Landscape Architect
Turf Farmer
Florist
Greenskeeper
Landscaper
Turf Manager
Flower Grader
Horticulturist
Nursery Operator

Agricultural Resources

Animal Behaviorist	Animal Ecologist	Animal Taxonomist	Environmental Conservation Officer
Environmentalist	Fire Warden	Forest Fire Fighter/Warden	Forest Ranger
Game Farm Supervisor	Game Warden	Ground Water Geologist	Park Ranger
Range Conservationist	Resource Manager	Soil Conservationist	Trapper
Water Resources Manager	Wildlife Manager		

Forestry

Christmas Tree Grader	Forester	Forest Ranger	Log Grader
Logging Operations Inspector	Lumber Mill Operator	Timber Manager	Tree Surgeon

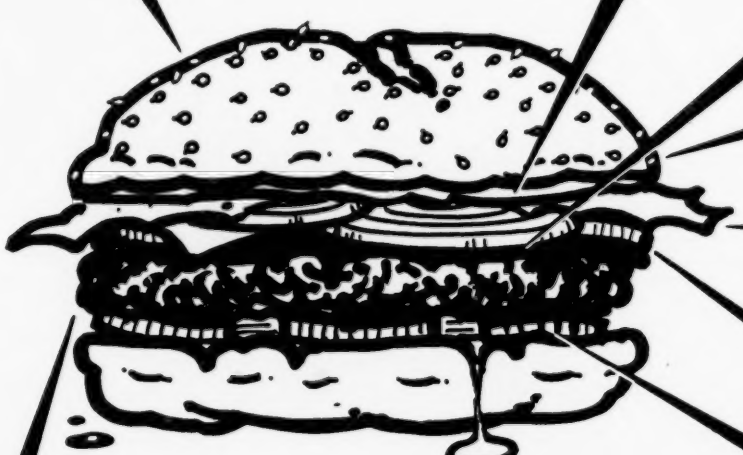
Other

Ag Accountant	Ag Advertising Executive	Ag Association Executive	Ag Consultant
Ag Corporation Executive	Ag Economist	Ag Educator	Ag Extension Agent
Ag Extension Specialist	Ag Journalist	Ag Lawyer	Ag Loan Officer
Ag Market Analyst	Ag Mechanics Teacher	Ag News Director	Agricultural Attache'
Agronomist	Animal Cytologist	Animal Geneticist	Animal Nutritionist
Animal Physiologist	Animal Scientist	Avian Veterinarian	Bacteriologist
Biochemist	Bioengineer	Biophysicist	Biostatician
Botanist	Computer Analyst	Computer Operator	Computer Salesperson
Computer Specialist	Credit Analyst	Entomologist	Dendrologist
Electronic Editor	Embryologist	Farm Appraiser	Environmental Educator
Equine Dentist	4-H Youth Assistant	Feed Ration Developer & Analyst	Farm Auctioneer
Farm Broadcaster	Farm Investment Manager	Graphic Designer	Fiber Technologist
Horticulture Instructor	Foreign Affairs Official	Ichthyologist	Herpetologist
International Specialist	Hydrologist	Lab Technician	Information Director
Limnologist	Invertebrate Zoologist	Mycobiologist	Land Bank Branch Manager
Marketing Analyst	Magazine Writer	Mammologist	Marine Biologist
Nematologist	Media Buyer	Meteorological Analyst	Microbiologist
Parisitologist	Organic Chemist	Ornithologist	Paleobiologist
Plant Geneticist	Photographer	Plant Cytologist	Plant Ecologist
Pomologist	Plant Nutritionist	Plant Pathologist	Plant Taxonomist
Publisher	Poultry Scientist	Public Relations Manager	Publicist
Scientific Artist	Reproductive Physiologist	Rural Sociologist	Satellite Technician
Soil Scientist	Scientific Writer	Silviculturist	Software Reviewer
Viticulturist	Vertebrate Zoologist	Veterinary Pathologist	Virologist
	Vocational Agriculture Instructor/FFA Advisor		

Adapted from: Think About It, National FFA Center, 5623 Mt. Vernon Memorial Highway, P. O. Box 15160, Alexandria, VA 22309-0160

21

Scope of the Agricultural Industry



BUN

MAYONNAISE

KETCHUP

SESAME SEED

LETTUCE

ONION

PICKLE

MUSTARD

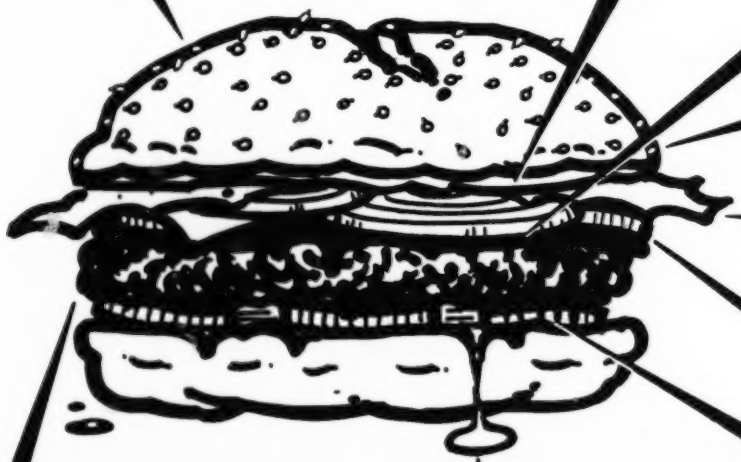
MEAT

Scope of the Agricultural Industry

BUN
producer to raise wheat, miller to grind, baker to bake

MAYONNAISE
poultry producer for eggs, vegetable oil from a corn producer

KETCHUP
tomatoes grown by the producer, blended by the processing plant



SESAME SEED
grown by a producer, shipped by a truck driver

LETTUCE
grown by a producer, packaged by a grocer

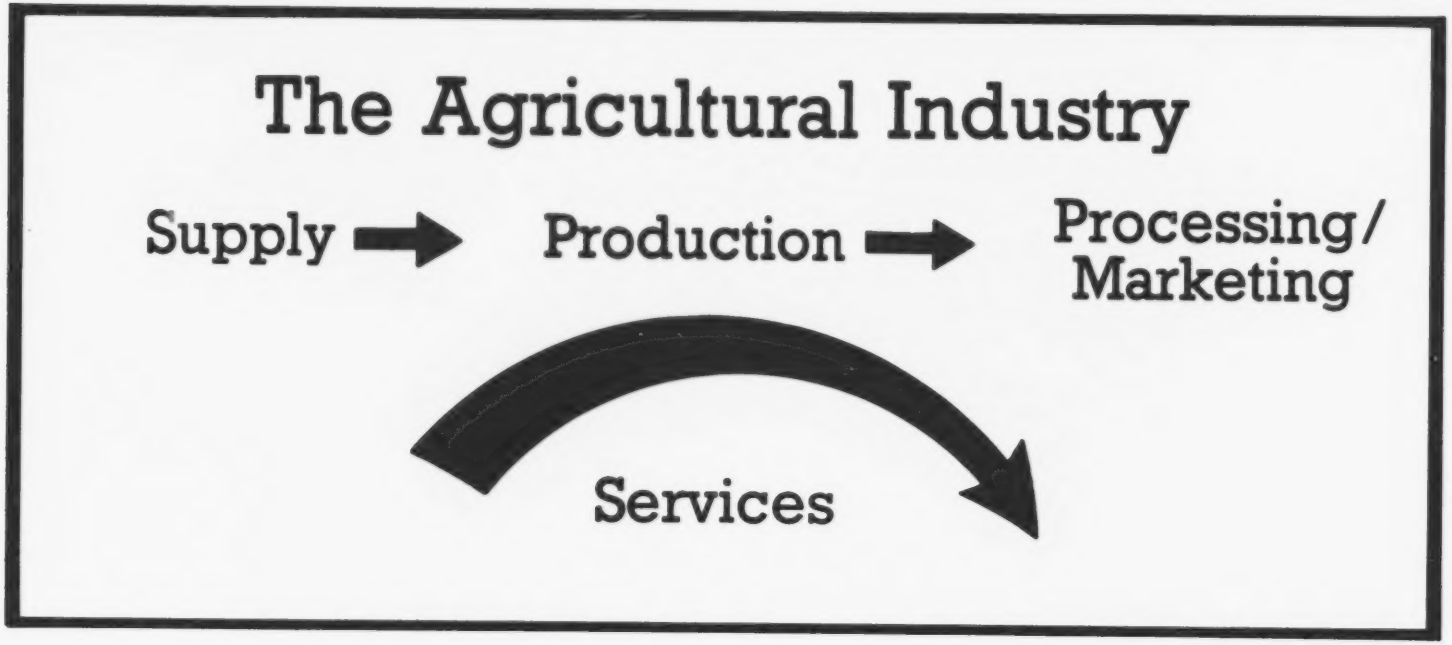
ONION
grown by a producer, shipped by a rail line

MEAT
produced on a ranch, inspected by a veterinarian, financed by a bank

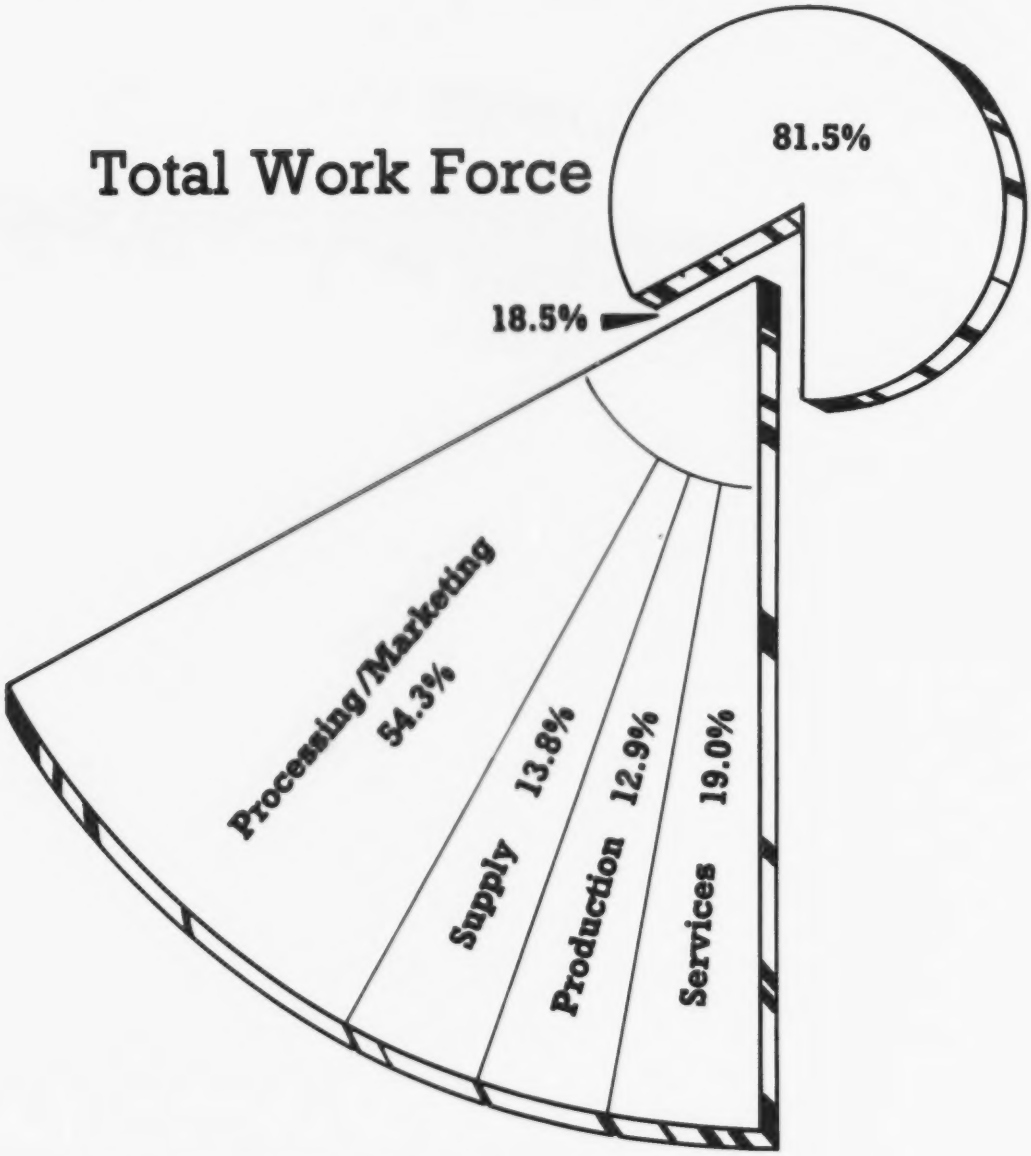
MUSTARD
mustard seed raised by a producer, salt mined by a miner, spices brought by a trader

PICKLE
cucumber raised by a producer, truck driver to haul them, cannery supervisor to oversee the pickling process.

Sectors in the Agricultural Industry



Employment in the Agricultural Industry



Based on statistics from: U.S. Department of Agriculture, Economic Indicators of the Farm Sector 1985, Farm Sector Review, ECIFS 4-1, 1985.

WHAT IS INVOLVED WITH
PROVIDING BREAKFAST?

Name _____
Date _____

Complete this table by answering each of the questions presented in the left column for each of the breakfast items listed below. Some examples have been included to help you get started.

	Orange Juice	Eggs	Bacon	Toast	Butter
SUPPLY					
1. List a supply needed by the producer.				wheat seed	
2. List a career providing that supply.			farm store manager		
PRODUCTION					
3. What is the ag commodity (raw material)?		egg			
4. List a career in the production of that commodity.	orchardist				
MARKETING/PROCESSING					
5. How is the commodity processed for the consumer?		cleaned and packaged			
6. List a career involving processing.			meat inspector		
SERVICE					
7. List a service that other areas may need to provide this product.				wheat futures market	
8. List a career which provides this service.					dairy herd inspector

UNIT - CAREERS I

Lesson 2: Job Requirements and Benefits of Agricultural Occupations

Objective: The student will list and classify agricultural occupations by their job requirements and benefits.

Study Questions

1. **What factors should be considered in selecting a career?**

2. **How can agricultural careers be classified?**

3. **What are characteristics of each agricultural career classification?**

4. **What benefits should be considered, and why are they important in selecting a career?**

5. **How can a job profile be used in selecting a career?**

References

1. Careers I (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1987.

2. Handout

   a) HO 2.1: Sample Job Profiles

3. Transparency Master

   a) TM 2.1: Occupational Areas in the Agricultural Industry

4. Work Sheets

   a) WS 2.1: Occupational Classification Characteristics
   b) WS 2.2: Job Profile

UNIT - CAREERS I

Lesson 2: Job Requirements and Benefits of Agricultural Occupations

TEACHING PROCEDURES

A. Review

Review previous lesson.

B. Motivation

Place a handful of loose change on a table top. Ask students how much money is there. The way to determine the proper amount is to sort the change by denomination and count it. Finding the right career is done in the same way. There are over 21 million workers in the agricultural industry in hundreds of different careers. To determine the career most applicable for an individual, one should develop a system for sorting careers. After grouping careers and determining which group is most interesting, the individual should then explore careers within that group. This system will allow a discussion of careers that relate to the area of instruction in vocational agriculture.

C. Assignment

D. Supervised study

E. Discussion

1. There are many factors involved in selecting a career. These factors will ultimately influence one's standard of living, career satisfaction, geographic preference, and position mobility. Ask students to discuss the factors. Discuss the differences in the cost of living in various parts of the country.

   What factors should be considered in selecting a career?

   a) Desired standard of living
   b) Amount of personal contact
   c) Formal education required
   d) Practical experience required
   e) Location of employment

2. In lesson one of this unit, the agricultural industry was divided into four basic sectors. Many businesses are involved in more than one sector. To help explain this overlap, careers are classified into eight occupational areas. Ask students to describe the areas and identify which areas are of greatest interest.

How can agricultural careers be classified?

a) Agricultural production
b) Agricultural supplies and services
c) Agricultural mechanics
d) Agricultural products
e) Horticulture
f) Agricultural resources
g) Forestry
h) Other

3. Study Question 2 can be used to lead into a discussion of this question. Students were asked to express their interest in a particular occupational area. The students' interests can be used to facilitate a discussion of the characteristics of each occupational area. After students have more information about each occupational area, ask if any of the students' interests have changed. Have students complete WS 2.1 during the discussion of agricultural career classification characteristics. This study question answers WS 2.1.

What are characteristics of each agricultural career classification?

Occupational Classification Characteristics

Occupational Classification	What is Done	Amount of Outdoor Work	Amount of Working Hours	Personal Contact	Amount of Physical Labor Required	Advancement Opportunities	Salary Potential
Agricultural Production	produce raw agricultural products	High	medium to high	low	medium to high	Low	Low to medium
Agricultural Supplies and Services	provides needed supplies and services	medium	medium to high	high	low to medium	High	medium to High
Agricultural Mechanics	repair, build and service agricultural equipment	medium to high	medium	low to medium	medium to high	Low	medium
Agricultural Products	process and inspect agricultural products	medium	low	low	medium to high	medium	medium
Horticulture	raise and sell trees, shrubs etc. Landscaping	medium to high	low To medium	medium	medium	medium	Low to medium
Forestry	improve, harvest or process natural resources	high	medium	Low	high	Low	Low to medium
Agricultural Resources	help protect, manage, and wisely use natural resources	medium to high	medium to high	medium to high	low to medium	Low	Low to medium
Other	provide education or information	Low to medium	medium to high	high	low to medium	medium	medium

4. Different career fields offer many types of rewards. Ask students to identify benefits they would expect to receive from a career. Salary will probably be mentioned first. However, students should be aware of many other benefits. This awareness may change a student's career choice.

What benefits should be considered, and why are they important in selecting a career?

a) Tangible - Tangible benefits are things that can be measured and compared.
   1) Salary
   2) Insurance
   3) Retirement
   4) Profit sharing

b) Intangible - Intangible benefits are things that cannot be directly measured or compared.
   1) Working environment
   2) Personal satisfaction
   3) Travel
   4) Geographic location
   5) Advancement potential

5. Many students will have written book reports in other classes. A book report is a summary of the main characters and theme of the book. A job profile is a brief summary of the duties, responsibilities, and benefits of a particular career. Usually, it will also describe the work experiences and education required to obtain the job. Discuss with students how job profiles would be used to explore career interests and set career goals. Distribute and discuss HO 2.1: Sample Job Profiles. Have students complete a job profile, WS 2.2.

How can a job profile be used in selecting a career?

A job profile can be used to determine career interests and set career goals.

F. Other activities

1. Have students develop job profiles using the format in WS 2.2. Information sources would include the local library, community members, and letters to businesses. The information from these sources can be added to the handout information and shared with other students.

2. Have students interview retired individuals about the numerous jobs that made up that individual's career.

3. Invite an individual to speak to the class on his or her career.

G. Conclusion

There are several factors involved in selecting a career, such as desired standard of living, personal contact, and education requirements. These factors aid in career selection. Career selection can be made easier by examining several careers which involve similar activities. Benefits also should be considered when selecting a career. Job profiles are useful to review potential career positions of interest.

H. Competency

List and classify agricultural occupations by their job requirements and benefits.

I. Answers to Evaluation

1. b
2. c
3. c
4. b
5. d
6. b

7. Other benefits may make a difference in what each career opportunity is worth.

J. Answers to Work Sheets

a) WS 2.1 This work sheet is designed to facilitate discussion. Sample answers are in Study Question 3.

b) WS 2.2 There are no specific answers for this work sheet. The instructor will need to determine the acceptability of students responses.

UNIT - CAREERS I

Name _____

Lesson 2: Job Requirements and Benefits of Agricultural Occupations

Date _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. Which of the following can be used to examine and compare potential positions within a career?

   a. Self-inventory
   b. Job profile
   c. Job description
   d. Job listing

2. Benefits that can actually be measured are called _____.

   a. Fringe benefits
   b. Intangible benefits
   c. Tangible benefits
   d. Travel benefits

3. Individuals employed in the occupational classification of forestry would do which of the following in their work?

   a. Repair, build, and service agricultural equipment
   b. Process and inspect agricultural products
   c. Improve, harvest, or process natural resources
   d. Provide education or information

4. A welder in a repair shop would most likely be involved in which occupational area?

   a. Agricultural Supplies and Services
   b. Agricultural Mechanics
   c. Agricultural Products
   d. Agricultural Resources

5. Providing education or information is done by individuals in which occupational classification?

   a. Agricultural resources
   b. Forestry
   c. Agricultural supplies and services
   d. Other

6. Which of the following statements about selecting a career is false.

   a. Benefits are more than "icing on the cake" and are an important consideration.
   b. Location of employment is not really important to job satisfaction.
   c. Location of employment is an important factor to consider.
   d. Personal satisfaction should be considered.

Complete the following short answer question.

7. When interviewing for a job, why is it important to compare more benefits than just salary?

SAMPLE JOB PROFILES

OCCUPATIONAL AREA: Agricultural Services

JOB PROFILE: Credit Representative - Farm Credit Service

Description: A loan officer for Farm Credit Service is involved in the entire loan-making process. In making and servicing agricultural loans, the officer also creates loan portfolios and provides services in financially related areas. Approximately 75 percent of this person's time is spent in the office doing a variety of tasks including meeting with customers, making phone calls, processing loans, and doing periodic reporting and budgeting. The rest of the time is devoted to duties outside the office such as farm visits, appraisals, courthouse work, and developing bank contracts.

Skills: Oral and written communication skills are a must. A loan officer must effectively represent the bank before large and small groups of people for bank promotion purposes. Time management and good negotiation skills are valuable to understand a client's problems and needs. A loan officer is a problem solver and must be able to adapt well to difficult and changing situations. A person interested in this position should possess personality characteristics like perseverance, determination, composure, and self-motivation.

Preparation: Exposure to agricultural business and finance is extremely beneficial. Course work in agricultural economics serves as an excellent starting point for this career. Specifically, courses in micro- and macro-economics, computer science, marketing, management, and communications would be helpful.

Job Prospects: The best way to enter the field is through campus or direct-contact interviews. Hiring and training programs normally coincide with school completion. Career opportunities are positive for top-quality individuals who can make the grade and possess a productive, self-motivated attitude.

Salary: A beginning annual salary is approximately $20,000, with good advancement prospects for individuals exhibiting a capacity for additional authority and responsibility. The agri-finance industry is changing just as agriculture is changing, and this requires a person willing to adapt and become proficient in new and various tasks.

OCCUPATIONAL AREA: Horticulture

JOB PROFILE: Flower shop owner

Description: A flower shop owner has dual responsibilities: floral and business. The owner may be responsible for designing floral arrangements, selecting flowers, and providing information on plants, soils, and landscaping. Business activities will require the owner to spend time each day calling on customers and commercial accounts to increase sales and maintain customer satisfaction. The flower shop owner will often work six or seven days per week.

Skills: A knowledge of floriculture and oral and written communication skills are a must. Time management skills are very important to increase the owner's efficiency. A flower shop owner must be willing and able to deal with changing situations. A person interested in this position should possess personality characteristics like perseverance, composure, self-motivation, and a desire to work with the public.

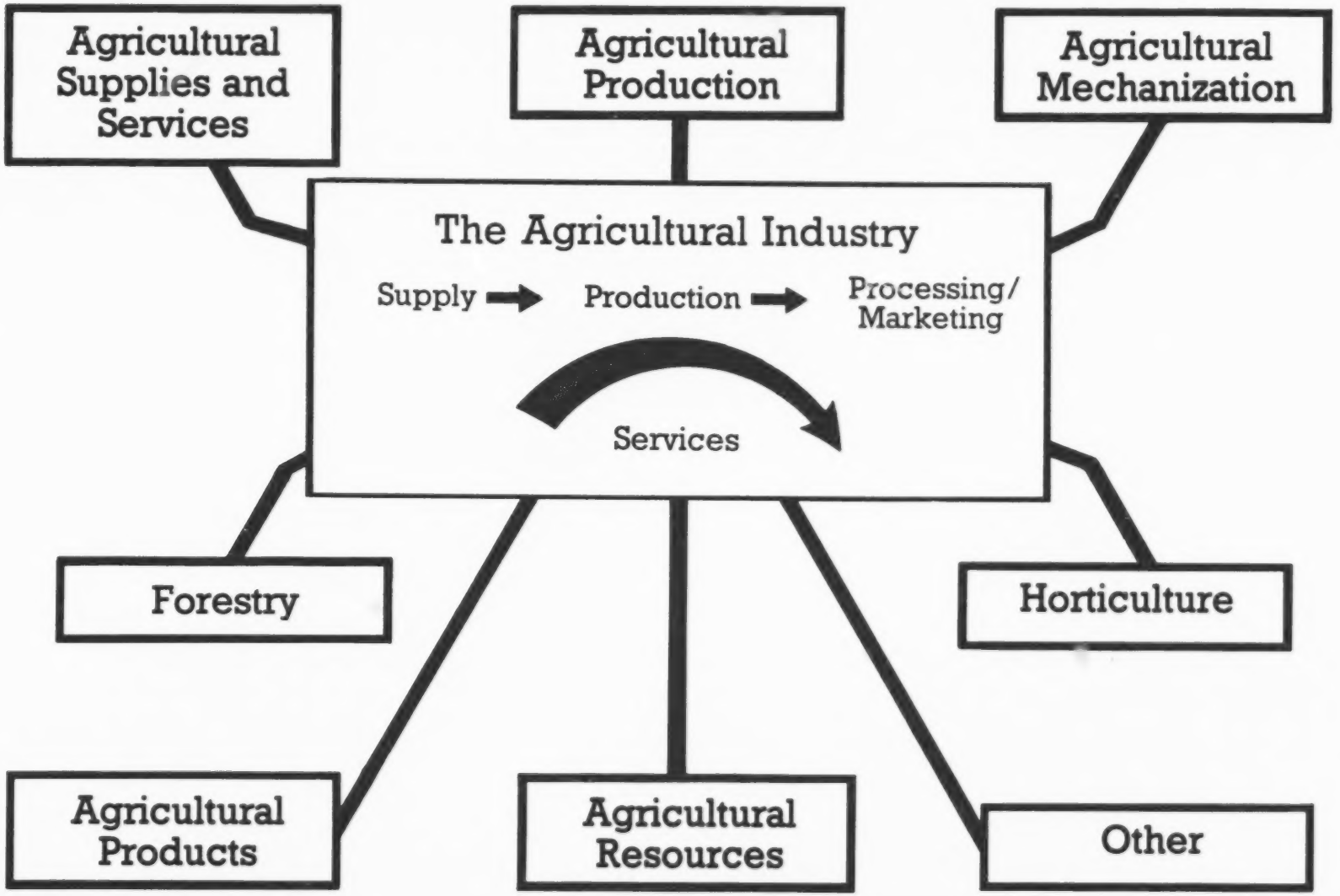
Preparation: A broad exposure to horticulture and business is extremely helpful. Course work in horticulture, soils, landscaping and business management serve as an excellent starting point. Additional course work in written and oral communications is also strongly recommended. Internships or other work experience with floral shops are also important to provide practical experience.

Job Prospect: The most common way to become a flower shop owner is to first work for another flower shop or nursery to save money and gain experience. When adequate resources are available through savings, loans and gifts, a location should be selected that is easily accessible to customers.

Salary: Starting one's own business can require a large amount of money. An alternate source of income may be necessary at first. One's salary will depend on location and competition. One can expect to earn a salary that is competitive to other areas in agriculture.

Adapted from: Career Development and Placement Office, University of Missouri, College of Agriculture, Copyright 1987.

Occupational Areas in the Agricultural Industry



TM 2.1

Occupational Classification Characteristics

Occupational Classification	What is Done	Amount of Outdoor Work	Amount of Working Hours	Personal Contact	Amount of Physical Labor Required	Advancement Opportunities	Salary Potential
Agricultural Production							
Agricultural Supplies and Services							
Agricultural Mechanics							
Agricultural Products							
Horticulture							
Forestry							
Agricultural Resources							
Other							

JOB PROFILE

OCCUPATIONAL AREA:

JOB PROFILE:

Description:

Skills:

Preparation:

Job Prospect:

Salary:

UNIT - CAREERS I

Lesson 3: Steps in Identifying and Selecting a Career

Objective: The student will match personal interests with appropriate occupations.

Study Questions

1. **What is a self-inventory, and how can it be used to determine personal career interests?**

2. **How are the qualifications for a specific career determined?**

3. **What are the steps in selecting a career?**

4. **What steps are necessary to achieve a career goal?**

References

1. Careers I (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1987.

2. Work Sheet

   a) WS 3.1: Self-Inventory

UNIT - CAREERS I

Lesson 3: Steps in Identifying and Selecting a Career

TEACHING PROCEDURES

A. Review

Review previous lesson.

B. Motivation

Before class choose several agricultural careers and write them on slips of paper. Place the slips in a hat. Tell students that in today's class they will determine the career they will enter after graduation. Have two or three volunteers draw a career from the hat. Ask them if they are satisfied with what they have drawn. Explain to them that without consciously planning for a career, one is really drawing the future from a hat. Career satisfaction usually involves several steps. These steps will be discussed in this lesson. (When selecting students to participate in this motivation, be sure no student is given a career completely infeasible for him or her.)

Another motivation is to list 12 careers on the board and number them one through 12. Roll a pair of dice. Match the number on the dice to the career on the board. Do this a few times and assign each number to a student at random. Ask students if they would be satisfied with the career they were given. Explain to them that without consciously planning for a career, one is really leaving the future to chance.

C. Assignment

D. Supervised study

E. Discussion

1. A self-inventory is an individual assessment tool that has no right or wrong answers. Review WS 2.1, Occupational Classification Characteristics. Have students complete WS 3.1, Self-Inventory. Compare these results with WS 2.1. Discuss student responses to the self-inventory.

   What is a self-inventory, and how can it be used to determine personal career interests?

   It is a self-assessment tool used to help identify one's likes and dislikes.

2. After completing WS 3.1, each student should identify the occupational area which is of interest to them by comparing the students interests on WS 3.1 with the occupational requirements listed on WS 2.1. After identifying the area, students should be asked to identify courses and

careers in which they are interested. Students should determine the qualifications needed for a specific career.

How are the qualifications for a specific career determined?

a) Review job profiles in counselor's office.
b) Research the career.
    1) Talk with people currently in that field.
    2) Talk to people in related areas.

3. Students should have identified an area of career interest. The next step is to focus on a career that is appropriate for each individual student. The process listed below is designed to help students in selecting a career.

What are the steps in selecting a career?

a) Complete a self-inventory.
b) Select an occupational area.
c) Explore career opportunities in the occupational interest area.
d) Identify the career that matches personal interests with job requirements.
e) Evaluate the decision.
f) Make needed adjustments.

4. After a tentative career has been selected, it is important for students to develop a plan for reaching that career. Ask students to outline steps necessary to reach that career goal.

What steps are necessary to achieve a career goal?

a) Specify career goal.
b) Determine current status.
c) Identify difference between goals and status.
d) Develop a plan to overcome the difference between current status and career goal.
e) Implement the plan.

F. Other activities

1. Complete job profiles for each of the three occupations which the students have identified in this lesson.

2. Have a discussion on how work attitudes affect success on the job.

3. Invite the placement director from a local company to talk about work attitudes.

G. Conclusion

A self-inventory is a useful tool for identifying career interests. These interests can be matched with characteristics from occupational areas to

determine each individual's area of interest. Job profiles can be used to match one's interests with specific job requirements within an occupational area. It is important to evaluate any decision that has been made. For one to be successful in selecting and preparing for a career, it is important to have a goal in mind.

H. Competency

Match personal qualifications with appropriate occupations.

I. Answers to Evaluation

1.	c	5.	b
2.	a	6.	b
3.	d	7.	d
4.	e	8.	b

J. Answers to Work Sheet

Work Sheet 3.1 - This exercise has no right or wrong answers. It is used to identify personal interests. The work sheet can be utilized by comparing student responses to characteristics identified for each occupational classification on WS 2.1. Students should respond to the self-inventory in a logical manner to accurately reflect their individual interests. Explain to students that the characteristics which they identify can be used to determine areas of occupational interest.

Provide markers (i.e. corn kernels, bingo chips) to students asking them to indicate their priority of criteria influencing career selection. Limit each student to 25 markers. Instruct students to begin by placing markers in the left-hand column and add more markers to the row to indicate a higher priority for each criteria. Tell students they must place at least one marker on each row.

Have students compare their priority criteria to the characteristics listed on WS 2.1 From that table students should select one or two occupational classes which most closely match their interests. After selecting the appropriate occupational class(es) have students identify three careers from HO 1.1 which appear to most closely match their career selection criteria.

UNIT - CAREERS I

Name _____

Lesson 3: Steps in Identifying and Selecting a Career

Date _____

EVALUATION

Rank the steps for achieving a career goal in the correct order by putting the letter of each step on the right beside the correct step number on the left.

Step 1._____	a. Determine current status
Step 2._____	b. Implement the plan
Step 3._____	c. Specify career goal
Step 4._____	d. Identify the difference between goals and status
Step 5._____	e. Develop a plan

Circle the letter that corresponds to the best answer.

6. A self-inventory can be used to compare personal career interests to which of the following?

   a. Job benefits
   b. Job requirements
   c. Job description
   d. Job prospects

7. Which of the following is a first step in selecting the right career?

   a. Match personal interests with specific job requirements
   b. Select an occupational area
   c. Evaluate the decision
   d. Complete a self-inventory

8. If an individual evaluates the career selected and finds that it does not match the individual's interest, which of the following is the next step?

   a. Start over
   b. Select another related career
   c. Complete a self-inventory
   d. Select an occupational area

SELF-INVENTORY

How important are the following items in your future career? Place a marker in the appropriate box to indicate the degree to which you agree with the following criteria. You must begin by placing markers in the left column and adding more to the row indicating higher priority for that criteria. You must have at least one marker in each row. You are limited to a total of 25 markers.

Criteria	No Preference	Agree	Strongly Agree	Absolutely Necessary
1. I would like to work outdoors.				
2. I want many advancement opportunities in my career.				
3. I would like to work with my hands.				
4. I value making a large salary over job satisfaction.				
5. I would like to travel frequently as a part of my job.				
6. I like to work with animals.				
7. I want to limit my personal financial investment related to my career.				
8. I enjoy working with other people.				
9. I would like to work on or with machines.				
10. I value a regular schedule and prefer working 40 hours per week.				

List three occupations which would have requirements similar to your interests. Use HO 1.1 to get some ideas.

_____ _____ _____

AG-20-S
Agdex 900

Careers I Careers I Careers I Unit

For
Agricultural Science I Core Curriculum
Student Reference

In cooperation with
Agricultural Education
Department of Practical Arts and Vocational-Technical Education
College of Education and College of Agriculture
University of Missouri-Columbia

In cooperation with
Agricultural Education Section
Division of Vocational and Adult Education
Department of Elementary and Secondary Education
Jefferson City, Missouri

The activity which is the subject of this report was supported in whole or in part by funds from the Department of Elementary and Secondary Education, Division of Vocational and Adult Education. However, the opinions expressed herein do not necessarily reflect the position or policies of the Missouri Department of Elementary and Secondary Education or the Division of Vocational and Adult Education, and no official endorsement should be inferred.

Student Reference

CAREERS I UNIT

Kevin J. Bacon
Research Assistant
Instructional Materials Laboratory

Robert J. Birkenholz
Assistant Professor
Agricultural Education
University of Missouri-Columbia

Volume 19
Number 11

Produced by the Instructional Materials Laboratory
University of Missouri-Columbia
Columbia, Missouri

Catalog Number AG-20-S
May 1988

ACKNOWLEDGEMENTS

This unit is a revision of the 1982 Careers I (Student Reference). Revision of this reference was suggested by the Missouri Vocational Agricultural Teacher Association Teaching Aids Committee.

The Careers Advisory Committee selected the topics to be included in this unit. Special recognition is given to the committee members for providing their valuable time and suggestions in developing this unit. The committee consisted of the following: Steve Bryant, Doug Funk, Dennis Gutshall, Delbert Lund, Charles Parks, Kathy Sicht, Julie Tockman, and Jim Welker.

Special recognition is also due to Harley Schlichting, director of the Instructional Materials Laboratory, and his staff for the typing, editing, and illustrating of this unit.

Kevin J. Bacon
Research Assistant
Instructional Materials Laboratory
University of Missouri-Columbia

Robert J. Birkenholz, Assistant Professor
Agricultural Education
University of Missouri-Columbia

FOREWORD

This student reference in careers is designed to accompany the lessons outlined in the 1987 Careers I (Instructor's Guide), a part of the Agricultural Science I curriculum. It would be of value to anyone seeking an understanding of the career selection process.

The agricultural industry, the largest industry in the United States, employs one-fifth of the nation's work force. This reference will introduce the reader to many of the challenging job opportunities existing in this important sector of the U.S. economy. This reference will also teach students to set career goals and to evaluate themselves to determine which career areas match their own personal skills and interests.

Three lessons were developed to aid students in the career selection process. The lessons are as follows: 1) Career Opportunities in the Agricultural Industry, 2) Job Requirements and Benefits of Agricultural Occupations, and 3) Steps in Identifying and Selecting a Career.

Persons using this reference on an individual basis may wish to secure a copy of the Careers I (Instructor's Guide) for additional materials and references.

Bob R. Stewart, Professor and
Coordinator
Agricultural Education
University of Missouri-Columbia

Terry Heiman, Director
Agricultural Education
Department of Elementary and
Secondary Education

CAREERS I

TABLE OF CONTENTS

ACKNOWLEDGEMENTS ii

FOREWORD iii

Lesson 1 - Career Opportunities in the Agricultural Industry 1

Career vs. Job 2
Sectors of the Agricultural Industry 2
Careers in Each Sector 3
People Employed in Each Sector 5

Lesson 2 - Job Requirements and Benefits of Agricultural Occupations 7

Factors to Consider 7
Classifying Agricultural Careers 8
Characteristics of the Occupational Areas 9
Benefits 10
Job Profile 11

Lesson 3 - Steps in Identifying and Selecting a Career 13

Self-Inventory 13
Determining Qualifications 13
Selecting the Right Career 14
Achieving the Career Goal 14

UNIT - CAREERS I

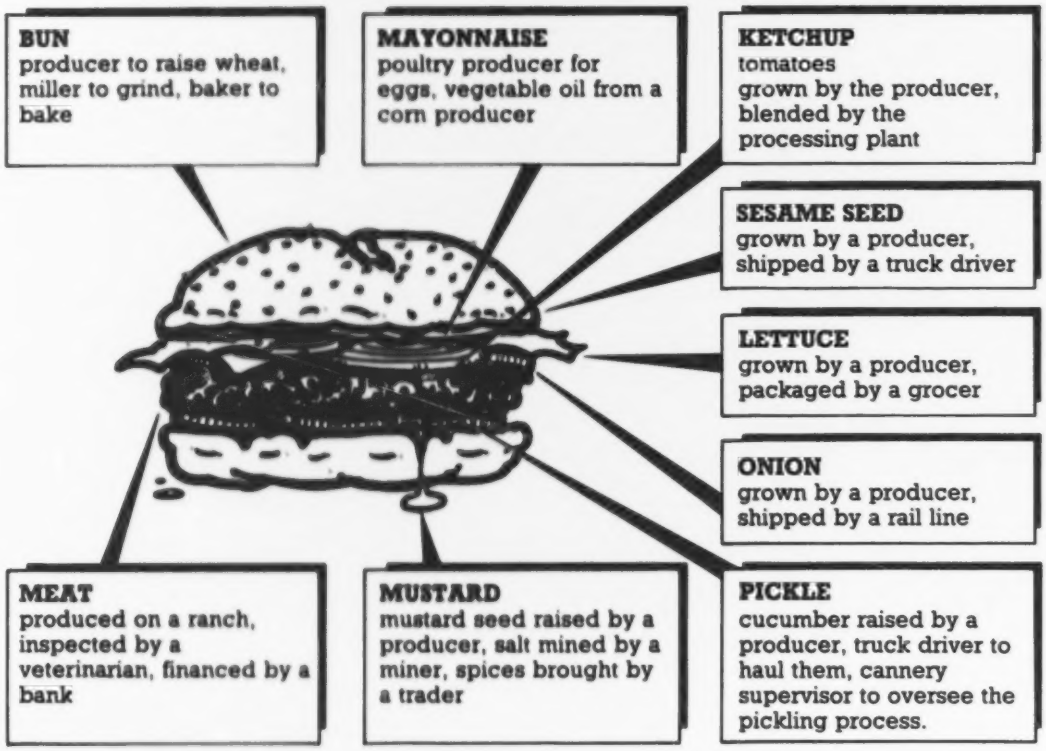
Lesson 1: Career Opportunities in the Agricultural Industry

Agriculture is the largest single industry in the United States. It provides nearly one person of every five with a job. Relatively few of these jobs are in production agriculture. Most of the jobs in the agricultural industry involve activities which move farm products from the farmer's gate to the consumer's plate. There are also many career opportunities providing supplies, equipment, and services to farmers and agribusinesses.

The agricultural industry reaches from coast to coast. Review Figure 1.1. Notice the different occupations involved in producing this product. This is an example of the different occupations involved in the agricultural industry. There are many career opportunities involved with each agricultural product. Many opportunities will require knowledge and skills that can be acquired through agriculture courses, advanced course work at a technical school or college, or on-the-job training.

FIGURE 1.1

Scope of the Agricultural Industry


BUN
producer to raise wheat, miller to grind, baker to bake
MAYONNAISE
poultry producer for eggs, vegetable oil from a corn producer
KETCHUP
tomatoes grown by the producer, blended by the processing plant
SESAME SEED
grown by a producer, shipped by a truck driver
LETTUCE
grown by a producer, packaged by a grocer
ONION
grown by a producer, shipped by a rail line
MEAT
produced on a ranch, inspected by a veterinarian, financed by a bank
MUSTARD
mustard seed raised by a producer, salt mined by a miner, spices brought by a trader
PICKLE
cucumber raised by a producer, truck driver to haul them, cannery supervisor to oversee the pickling process.

Career vs. Job

Many people use the words career and job interchangeably. There is a difference. A job is a specific task or duty performed for pay. It is a single position at any one point in time. A career is a profession or occupation for which one trains and pursues as a lifework. It involves a range of related positions or jobs that may be held by an individual over a period of time. It requires continual updating and learning of new skills through continuing education, professional meetings, and workshops.

EXAMPLE: Allen is interested in a career as an agricultural journalist. During high school, he worked on the school newspaper as a writer and editor. Last summer, he worked as an assistant writer for a farm program at the local radio station. He is now studying agricultural journalism in college. After college he wants to become a journalist for a national farm magazine.

Allen has a good start toward his career as an agricultural journalist. Each position he has held has been a positive step in working toward his career goal. Allen realizes that when he gets to the position he wants, his career will require that he stay current with technology and what is happening in agriculture. Allen knows that to stay current with agricultural journalism, he will need to participate in continuing education programs such as seminars, workshops, and professional meetings. If he fails to do these things, it will be hard for him to cover agricultural topics in a thorough manner.

EXAMPLE: Lisa wants to operate her own landscaping company. During high school, she took courses in nursery, landscaping and business management to help prepare. Her Supervised Occupational Experience Program (SOEP) involved placement with a local nursery. After high school, she plans to attend a technical school to study nursery and landscaping. She then would like to work for a landscaping company for a few years until she gains enough experience and money to start her own company. Her career will require her to attend classes and meetings to stay current with the landscaping industry.

Both Allen and Lisa have plans for a career. Their careers are different, but both require training, experience, ongoing education, and meetings. Both careers will require a high level of commitment and hard work from Allen and Lisa for them to be successful.

Sectors of the Agricultural Industry

The agricultural industry can be divided into four basic sectors. These sectors are supply, production, processing/marketing, and service. These sectors involve many different careers which work together to help the total industry run smoothly.

Supply - The supply sector provides equipment and materials for production. Some of the items this sector provides are tractors, trucks, machinery, feeding equipment, and fencing supplies.

Production - The production sector produces commodities which will be processed for consumers. It includes all people involved in farming and ranching.

Production agriculture provides many raw products such as beef, pork, grains, fruits, vegetables, and timber.

Processing/Marketing - The processing/marketing sector processes, markets, and distributes agricultural products to consumers. This sector is sometimes referred to as "gate to plate" because it turns the raw product from the production sector into products which are usable by consumers.

Service - The service sector provides help to the other sectors so that they work more efficiently and effectively. The other sectors rely on the service sector for technical advice, training, financial assistance, management skills, livestock care, repairs, deliveries, and marketing. There is a wide variety of opportunities available in the service sector. There are more people employed in the service sector than there are in the production sector.

Careers in Each Sector

There are many career opportunities in each sector of the agricultural industry. The careers mentioned below identify only a few. Other sources of career information will be included later in this unit. Note that some careers may overlap more than one sector of the agricultural industry. Even though a college education is not required for many careers, continuing education is important to keep up with changes in technology.

Supply - The following are examples of careers in the supply sector.

1. Agricultural chemist - Agricultural chemists research, test, and manufacture agricultural chemicals such as herbicides to control weeds. This career requires good math and chemistry skills and an excellent understanding of plant and soil science. A college degree is required for most positions.
2. Agricultural engineer - Agricultural engineers are involved in researching, designing, and testing agricultural equipment and supplies. This career requires good math and science skills as well as a good understanding of agriculture. A college degree is required.
3. Feed mill manager - A feed mill manager is responsible for supervising employees. This position also involves good record keeping, producing and selling a quality product, and meeting industry regulations. A good knowledge of record keeping, animal science, and business management skills is needed. Experience in all parts of the operation is also very helpful.
4. Parts store manager - A parts store manager must have a thorough understanding of the parts industry, including sales of parts for tractors, trucks, or other agricultural equipment. The manager also needs a good understanding of accounting, business management, and human relation skills. A parts store manager must also be able to stay current with changes in the industry.
5. Pesticide salesperson - A pesticide salesperson works directly with people using pesticides. The salesperson must have a thorough knowledge of how pesticides work and be able to explain how to use them to customers. This type of career requires excellent communication skills along with the desire to work with many different people.

Production - The following are examples of careers in the production sector.

1. Crop farmer - A crop farmer produces, harvests, and markets crops such as wheat, soybeans, corn, oats, and barley. This career requires an extensive knowledge of crops grown, harvesting procedures, marketing procedures, record keeping, and business management. A college degree is usually not required, but some education beyond high school is very helpful.
2. Dairy farmer - A dairy farmer produces milk and dairy beef. This career requires an extensive knowledge of dairy cows, milk production, government programs, and business management skills.
3. Poultry farmer - A poultry farmer is responsible for producing, managing, and marketing poultry or eggs. Poultry farming requires an extensive knowledge of nutrition and health, as well as business management skills.
4. Tree nursery manager - A tree nursery manager will need to have a good understanding of forestry, pest control, landscaping, and business management. Tree nursery managers may operate their own businesses, or they may work for a large company.
5. Vegetable producer - A vegetable producer often will contract with a canning factory to raise certain types of vegetables. A vegetable producer must have excellent management skills to insure the proper quality and timing to control spoilage.

Processing/Marketing - The following are examples of careers in the processing/marketing sector.

1. Commodity grader - A commodity grader is responsible for judging the quality of various agricultural products. A career as a commodity grader would require an excellent understanding of factors affecting the quality of food products. Most positions as a commodity grader will require some college course work.
2. Food technologist - A food technologist is responsible for making sure food products are safe and free of contamination. This career requires a good knowledge of math, chemistry, and food preservation.
3. Grocery store manager - A grocery store manager is usually responsible for employee relations, purchasing, and marketing of both food and non-food products. This career requires skills in business management, math, and public relations.
4. Processing plant supervisor - A processing plant supervisor is responsible for employee relations, the quality and amount of work done, and the safety of the finished product. This career requires an extensive knowledge of business management, food technology, chemistry, and math.
5. Retail florist - A retail florist must have an excellent knowledge of floriculture. A good background in business management would also be very helpful.

Service - The following are examples of careers in the service sector.

1. Agricultural teacher - There are many different career opportunities for agricultural teachers. Many agricultural teachers are involved

with vocational agricultural programs. Others are involved with industry training programs, extension, college teaching, and overseas programs. Nearly all agricultural teaching careers require four years of college course work. Many areas require additional training or course work.

2. Consultant - A consultant in the agricultural industry provides technical knowledge or advice to businesses. Consultants are experts in their area. A good understanding of agriculture is very important. A college degree may not be necessary, but many years of experience are usually necessary. Many consultants have four or more years of college plus several years of experience.
3. Farm building contractor - Farm building contractors work directly with farmers or agribusinesses to design and construct buildings. A career as a farm building contractor would require a good understanding of the construction process, good communication skills, good business management skills, and drafting experience.
4. Loan officer - Loan officers are responsible for working with farmers and businesses to set up loans, review records, and make suggestions for long-range planning. A loan officer must have an excellent understanding of agriculture and accounting as well as the ability to communicate, both orally and in writing. Most loan officers have a college degree.
5. Veterinarian - There are many types of veterinarians. They are involved in research, government work, teaching, surgery, and care for all types of animals. A career as a veterinarian requires an excellent knowledge of chemistry, math, biology, animal science, and plant science. It requires college course work plus four years of advanced study. Many veterinarians operate their own businesses, which requires additional business management skills.

People Employed in Each Sector

The agricultural industry employs a total of 21 million people, or 18.5 percent of the total work force, in the United States. The supply sector employs 2.9 million people, or 2.6 percent of the total work force. Production agriculture employs 2.7 million people, or 2.4 percent of the total work force. The processing/marketing sector employs 11.4 million people, or 10 percent of the total work force. The service sector employs 4.0 million people, or 3.5 percent of the total work force.

This means that for every eight jobs in the agricultural industry, nearly seven of them involve occupations other than production agriculture. The agricultural industry is clearly much more than farming!

Summary

There are many career opportunities in the agricultural industry. These careers provide opportunities for professional growth through continuing education, meetings and workshops. The agricultural industry can be divided into four sectors: supply, production, processing/marketing and service. These categories are used as a starting point for classifying agricultural careers.

Credits

Hoover, Norman K. Handbook of Agricultural Occupations. Danville, Illinois: The Interstate Printers and Publishers, Inc., 1985.

Lee, Jasper S. Working in Agricultural Industry. New York: McGraw-Hill, 1978.

Careers in Agriculture. University of Missouri-Columbia: Instructional Materials Laboratory.

UNIT - CAREERS I

Lesson 2: Job Requirements and Benefits of Agricultural Occupations

Lesson one reviewed the size and scope of the agricultural industry. It may seem difficult to decide on a specific career area when looking at the entire industry at once. To help overcome this problem, this lesson will further divide the agricultural industry into occupational areas. The job requirements and benefits of each area will then be examined.

Factors to Consider

There are many factors to consider when selecting different types of careers. These factors will affect one's standard of living; like or dislike of different types of work; residence and friends; and nearly all other aspects of one's life. Some major factors to consider are presented below.

Standard of living - When selecting a career, it is important to choose one which will provide enough income to allow one to live comfortably. People view living comfortably in many ways. Some people are willing to give up things, such as living where they would like to live or living close to long-time friends, to have a career that pays more. Other people are willing to accept a lower income to live and work in a certain location. There is no right answer. The choice depends on the desires of each person.

Personal contact - Some people are interested in careers through which they will meet and work with many different people. Others prefer not to place themselves in that situation. It is important for each person to consider the amount of personal contact desired when selecting a career.

Formal education required - Almost every career requires at least a high school diploma. Many careers require a person to attend either a technical school or college. Career options may be limited by a lack of formal education.

Practical experience required - Many careers require persons to have practical experience in addition to formal education. Experience can be acquired through part-time jobs during high school and college or full-time, entry-level jobs. Another source of practical experience is the knowledge and skills gained through a supervised occupational experience program in vocational agriculture.

Location of employment - Many people are limited in career options because of the location of the job. It is sometimes difficult for people to enter careers or to accept advancements because they are either unwilling or unable to move to a new location.

There are many other factors which are important for career success. Much of the potential for success depends on the employee's attitude. To succeed in a career one needs a positive attitude toward their work. How well an individual can communicate and interact with others will also affect career success.

Classifying Agricultural Careers

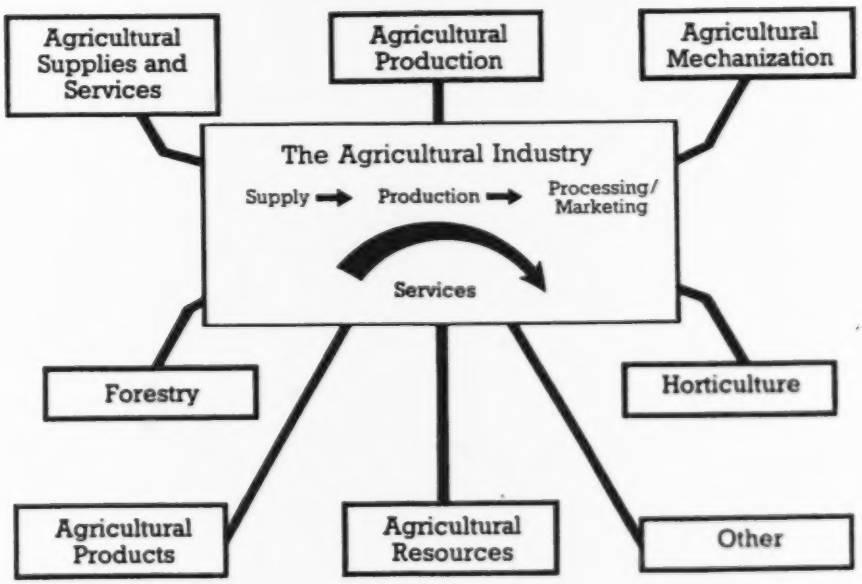
The agricultural industry can be divided into eight occupational areas. These areas may overlap more than one sector of the agricultural industry. Each occupational classification includes many different career opportunities. The eight occupational areas include careers which have similar job requirements and benefits which can be grouped together. The eight occupational areas are listed below.

1. Agricultural production
2. Agricultural supplies and services
3. Agricultural mechanics
4. Agricultural products
5. Horticulture
6. Agricultural resources
7. Forestry
8. Other

Review Figure 2.1 below. Careers in horticulture may involve supplies (raising seedlings), production (producing fruits and vegetables), processing/marketing (selling flowers and shrubs) and services (consulting or insect spraying). Each of the other occupational areas can be divided in much the same way.

FIGURE 2.1

Occupational Areas in the Agricultural Industry



Characteristics of the Occupational Areas

There are many different careers in each occupational area. Therefore, it is difficult to give exact characteristics of each occupational area which will fit all of the careers in that area. The purpose of the following descriptions is to provide general characteristics of each area which will serve as a starting point in selecting a career.

Agricultural production - Careers in agricultural production are involved in producing agricultural products such as soybeans, cotton, wool, beef, and pork. These products serve as the raw materials for food, fiber, and shelter. People in production agriculture spend much of their time outside. There may be limited public contact. They usually have no set working hours. The work may be very seasonal in some areas and not in others. Usually there is much physical labor involved. Often in agricultural production advancement opportunities are few, and salary may fall in the low to medium range.

Agricultural supplies and services - People in this occupational area provide the supplies and services needed by other sectors of the agricultural industry. Some careers in this area require outdoor work, but others may require work inside. Some workers have set working hours, but others may not. Although there may be some seasonal effects, most career opportunities in the supplies and services area provide year-round employment. Some positions, such as a feed store worker, may require some physical labor, while other positions require good business management and communication skills. Many positions will include working with many different people. Some positions will also require several years of formal education. In the agricultural supplies and services category, advancement opportunities are excellent, and the salary potential may vary from medium to high.

Agricultural mechanics - Activities in the agricultural mechanics occupational area include repairing, building, and servicing agricultural machinery and equipment. Most of the work is done in a shop or outside. Occasionally desk work is involved, but most career opportunities in this area do not require much of it. Usually people in this area have a limited amount of public contact. There may be longer working hours during planting and harvesting time. A good amount of physical labor is involved because most of the jobs require working with one's hands, tools, and machines. Although advancement opportunities may be limited, the salary potential of this work is in the medium range for agricultural careers. Agricultural mechanics careers in the food processing industry may be one of the fastest growing areas in the future.

Agricultural products - This area involves processing and inspecting agricultural products. People working in this area take raw products from production agriculture and turn them into finished products which are bought by consumers. Many of these careers involve indoor work. Many careers require management and communication skills to prepare reports and work in cooperation with other individuals and agencies. Other careers will be involved more directly in the processing work, many of which may have set working hours. Most will not require much public contact; however, people may have to work with many different departments. There may be some seasonal effects, and some positions will require a good deal of physical labor. Many positions also require a thorough

knowledge of agriculture. There are many opportunities for advancement and the potential for a large salary falls into the medium range.

Horticulture - Horticulture careers offer a wide variety of career opportunities. Employees may be involved in plant research; greenhouse crops; nursery and landscaping; and fruit and vegetable production. People usually begin working with a greenhouse operation, retail florist, or landscaping company. There may be some desk work as one moves up, but most people work in the greenhouse or outside. These careers usually have set working hours. Some positions will require working with many different people, but most do not. Much of the work is seasonal and requires physical labor during certain times of the year. Opportunities for advancement are good, while the salary potential may range from fair to good.

Forestry - There are several career opportunities in forestry. People in forestry may do research, harvest timber, plant new seedlings, operate sawmills, fight forest fires, or manufacture paper products. Much of the work is done outside. Usually there is not much desk work involved unless one works for a large company or the government. Most people will work during set hours without much public contact. Much of the work is seasonal and involves physical labor. Although advancement opportunities may be lower in a forestry career than in others, the salary potential may range from fair to good.

Agricultural resources - Careers in agricultural resources are involved in protecting and managing natural resources. This may include research, preservation of wildlife, soil conservation, pollution control, or many other areas. Most of this work is done outside; however many workers have to file reports. People with careers in this area may be able to work independently. They usually have a set work schedule. They may have to work with many different people. Although advancement may be lower in an agricultural resources career than in others, the salary potential may range from fair to good.

Other - The remainder of the career opportunities in agriculture are grouped together. Most of these careers involve providing education or information to the public. Much of this work is done inside through meetings, classes, consultations, written materials, and radio or television programs. Much desk work may be involved. Although people in this area may work certain hours, they are often involved in evening meetings. Good public relations skills are necessary. Programs are adjusted to limit most seasonal effects. Some physical labor is involved; however, most of the careers require effective communication, planning, and organization skills. Although these careers vary in their benefits, most have good advancement opportunities and salary potential.

Benefits

There are two major classes of benefits to be gained from a career. They are labeled tangible and intangible benefits.

Tangible benefits - Tangible benefits can actually be measured and compared. For example, the salary an employee receives is a tangible benefit. Insurance policies provided by employers also have a set value; therefore they are

tangible. Other benefits which have a measurable value would include retirement pensions and profit sharing plans.

Intangible benefits - Intangible benefits cannot actually be measured or compared in a direct way. For example, the working conditions for a certain job may be very good or bad. This will affect whether one enjoys the job or not. The amount of enjoyment is intangible. Other intangible benefits might include advancement opportunities, personal satisfaction, travel, and geographic location. There are many things which can be classified as intangible.

It is important to consider benefits when selecting a career. Many careers may have the same starting salary, but other benefits may make a difference in what each career opportunity is worth. Also, some careers have a lower starting salary, but other benefits and potential salary increases may make the position more attractive.

Job Profile

A job profile is much like a book report. A book report provides a brief summary of the characters and plot in a story. A job profile is a brief summary of the duties, responsibilities, and benefits of a particular position. It will usually explain the work experience and education required to obtain a job in that field.

Job profiles can be used to determine career interests and set career goals. By identifying an occupational area which is of interest and comparing job profiles for careers in an occupational area, one can begin setting career goals. These goals will help determine which courses to take, the type of supervised occupational experience program to have, clubs and activities which would be helpful, and the amount of formal education needed.

Summary

There is a wide variety of career opportunities in the agricultural industry. The choice of a career will affect many aspects of one's life. To help identify career opportunities, agricultural careers can be divided into eight occupational areas. Basic characteristics of each area can be examined to help determine an area of interest. After a career area has been identified, it is important to consider the benefits of careers in that area. This information can then be used to help in selecting a specific career goal. More specific information can be obtained by reviewing job profiles and visiting with people employed in these areas.

Credits

Lee, Jasper S. Working in Agricultural Industry. New York: McGraw-Hill, 1978.

Hoover, Norman K. Handbook of Agricultural Occupations. Danville, Ill.: Interstate Printers and Publishers Inc., 1985.

Careers in Agriculture. University of Missouri-Columbia: Instructional Materials Laboratory.

UNIT - CAREERS I

Lesson 3: Steps in Identifying and Selecting a Career

For many people, selecting a career that is right for them is a difficult task. Often these people are overwhelmed by how complex career decisions can be, and they do not properly plan their career selection. As a result, many of these people are working in jobs with which they are unsatisfied. However, selecting a career does not need to be difficult. It requires an understanding of a few basics: the scope of the industry, how to classify jobs within the industry, how to determine one's own interests, and how to match personal interests with an appropriate career.

The previous two lessons reviewed the scope of the agricultural industry and how jobs can be classified in the industry. This lesson focuses on determining one's own interests and how to use those interests in identifying and selecting an appropriate career.

Self-Inventory

A self-inventory is a self-assessment tool. It is a list of questions which help to identify one's likes and dislikes. There are no right or wrong answers to a self-inventory because each person has different interests. An individual can compare his or her self-inventory with characteristics of occupational areas such as those listed in Lesson 2. A good self-inventory should contain a variety of questions designed to help one identify occupational areas of interest that an individual may want to explore as career possibilities.

Determining Qualifications

After a self-inventory has been completed and an occupational area selected, one can begin to identify career possibilities. After several careers have been identified, the next step is to determine the qualifications needed for a specific career. This can be done by reviewing job profiles and by doing research on that career.

Job profile - A job profile is one source of information about qualifications needed to obtain a specific job. As noted in Lesson 2, a job profile is a brief summary of the duties and responsibilities of a specific position. It contains information about the amount of experience needed, education required, and abilities needed for the job.

Research - Another important method of obtaining information on the qualifications for a specific career is to do research. This may involve talking to people who are currently employed in the career area or a supporting career, reading books about the career, interviewing a vocational agriculture instructor, or obtaining information from any other service related to the career.

After one gathers all available information, the information can be compared with personal interests identified on the self-inventory. Not only will that

person have an occupational area identified, but he or she will have a very good start in selecting a specific career within that occupational area.

Selecting the Right Career

Selecting the right career involves a series of steps. These steps are designed to help identify and choose the career best suited for the individual. These steps can also be used to determine what must be done to reach that career. Although many students may not be ready to choose a specific career, these steps are still very useful. The steps can also be used to identify the types of careers which are of most interest to students. Knowing one's interests may be very helpful in deciding what classes and organizations would be most helpful in preparing for a career in that area. The steps are listed below.

1. Complete a self-inventory.
2. Select an occupational area.
3. Explore career opportunities in that area.
4. Match personal interests with specific job requirements.
5. Evaluate the decision.
6. Make needed adjustments.

The first four steps have already been discussed. The reason for step five is that, after a specific career has been chosen, one needs to determine if the career chosen is one which he or she would be happy with and is capable of doing. For example, if someone does not like math and finds math very hard, a career as an agricultural engineer would probably not be a good choice.

If a person evaluates a career and finds it to be unsatisfactory, that person will need to do step six and make some adjustments. This would involve going back to other steps in the process to determine if there was a career which would be a closer match to the person's abilities and interests.

Achieving the Career Goal

Identifying and selecting a career that is right for each individual requires careful goal setting. Setting goals is much like developing a game plan. First a team must decide what it wants to accomplish: its goal. Then the team and coach determine the current status of the team. The way the team will try to overcome the difference between the current status and the goal is the plan. If the plan is not implemented than the goal can not be achieved. The steps listed below are necessary to achieve a career goal.

1. Specify career goal.
2. Determine current status.
3. Identify difference between goals and status.
4. Develop a plan to overcome the difference between current status and career goal.
5. Implement the plan.

Summary

A self-inventory is a very useful tool for identifying career interests. These interests can be matched with characteristics of occupational areas to determine each individual's area of interest. Job profiles can be used to match personal interests with specific job requirements within an occupational area. It is important to evaluate any decision that has been made. For one to be successful in selecting and preparing for a career, it is important to have a goal in mind.

Credits

Introduction to Agribusiness. University of Missouri-Columbia: Instructional Materials Laboratory, 1984.

Hillison, John; John Crunkilton. Human Relations in Agribusiness. New York: McGraw-Hill, 1980.

Lee, Jasper S. Working in Agricultural Industry. New York: McGraw-Hill, 1978.